

REMARKS

This Amendment is submitted in response to the Office Action dated January 23, 2004. In the Office Action, the Patent Office rejected Claims 1 and 9 under 35 U.S.C. §102(b) as being anticipated by *Fox* (U.S. Patent No. 5,705,742); and rejected Claims 17, 18 and 20 under 35 U.S.C. §102(b) as being anticipated by *Segerson et al.* (U.S. Patent No. 4,902,903). Further, the Patent Office rejected Claims 11-14 under 35 U.S.C. §103(a) as being unpatentable over *Algers* (U.S. Patent No. 6,058,776); rejected Claims 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Algers* in view of *Fox* (U.S. Patent No. 5,799,629); rejected Claims 2, 3 and 10 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* in view of *Smietana* (U.S. Patent No. 5,231,959); rejected Claims 4 and 6 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* in view of *Lowi, Jr.* (U.S. Patent No. 5,799,629); rejected Claim 7 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* in view of *Lowi, Jr.* and further in view of *Brunet et al.* (U.S. Patent No. 6,170,573); rejected Claims 5 and 8 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.*; rejected Claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Segerson et al.*; and rejected Claims 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over *Segerson et al.* in view of *Lowi, Jr.*

By the present Amendment, Applicant amended Claims 1, 11, 14

and 17. Applicant asserts that the amendments to the claims and the remarks that follow overcome the rejections made by the Patent Office and place the application in condition for allowance. Notice to that effect is requested.

In the Office Action, the Patent Office rejected Claims 1 and 9 under 35 U.S.C. §102(b) as being anticipated by *Fox et al.* (U.S. Patent No. 5,705,742). This rejection is traversed in view of the amendment to Claim 1 and for the reasons that follow.

Independent Claim 1, as amended, defines an apparatus for measuring displacement. The apparatus has a machine element which has a light source on the first wall of the machine element. Moreover, Claim 1 requires a sensor on a wall parallel to the first wall and positioned to detect intensity of light within the machine element.

On the contrary, *Fox et al.* merely disclose an apparatus which has a laser positioned at a first wall. The laser emits a light toward a valve. The laser is reflected toward a sensor which is on a wall not parallel to the first wall from which the laser is emitted. Therefore, *Fox et al.* do not disclose each and every element of independent Claim 1.

The Patent Office also rejected Claims 17, 18 and 20 under 35 U.S.C. §102(b) as being anticipated by *Segerson et al.* (U.S. Patent No. 4,902,903). This rejection is traversed in view of the amendment to Claim 17 and for the reasons that follow.

Independent Claim 17, as amended, requires a method step of providing a machine element having a length defined between a first end and a second end. Claim 17 also requires a method step of providing a shaft element which moves within the machine element wherein movement of the shaft element towards the first end causes movement of the shaft element away from the second end. Further, a light source is attached at the first end and a sensor is attached at the second end.

Segerson et al. do not disclose a shaft which is movable within a machine element wherein movement of the shaft towards the first end causes movement of the shaft away from the second end and wherein a light source is attached at a first end and a sensor is attached at the second end. In *Segerson et al.*, a shaft is provided which is positioned between a first end and a second end, but the shaft does not move towards the first end or the second end. Moreover, *Segerson et al.* do not disclose attaching of the light source at the first end, and attaching of the sensor at the second end as defined in amended Claim 17. Therefore, *Segerson et al.* do not disclose each and every element of independent Claim 17.

With respect to the rejections of Claims 1 and 17 under 35 U.S.C. §102(b), anticipation requires that a single reference discloses each and every element of Applicant's claimed invention. *Akzo N.V. v. U.S. International Trade Commission*, 808 F.2d 1471,

1479, 1 USPQ 2d. 1241, 1245 (Fed. Cir. 1986). Moreover, anticipation is not shown even if the differences between the claims and the reference are "insubstantial", and one skilled in the art could supply the missing elements. *Structure Rubber Products Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 USPQ 1264, 1270 (Fed. Cir. 1984).

Since neither *Fox et al.* nor *Segerson et al.* disclose the features and steps defined in amended Claims 1 and 17, respectively, the rejections of these claims under 35 U.S.C. §102(b) have been overcome and should be withdrawn. Notice to that effect is requested.

In the Office Action, the Patent Office rejected Claims 11-14 under 35 U.S.C. §103(a) as being unpatentable over *Algers* (U.S. Patent No. 6,058,776). This rejection is traversed in view of the amendment to Claim 11 and for the reasons that follow.

Algers merely teaches placement of a brush on an interior surface of a machine element.

Independent Claim 11, as amended, defines an apparatus for cleaning a machine component. The apparatus has a machine element having a body defining an interior wherein the body has a length defined between a first end and a second end. The first end has a wall having an opening. The first wall has a surface which is exterior to the machine element. A first brush is positioned on the surface of the wall wherein the first brush is exterior to the

machine element and contacts a shaft element.

The Patent Office rejected Claims 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Algers* in view of *Fox et al.* (U.S. Patent No. 5,799,629). This rejection is also traversed in view of the amendment to Claim 11 and for the reasons that follow.

Neither *Algers* nor *Fox et al.*, taken either singly or in combination, teach or suggest the elements of Claim 11, from which Claims 15 and 16 depend. Namely, neither reference teaches or suggests placement of a brush on a surface of a wall enclosing a shaft wherein the brush is exterior to a machine element.

The Patent Office rejected Claims 2, 3 and 10 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* in view of *Smietana* (U.S. Patent No. 5,231,959); rejected Claims 4 and 6 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* in view of *Lowi, Jr.* (U.S. Patent No. 5,799,629); rejected Claim 7 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* in view of *Lowi, Jr.* and further in view of *Brunet et al.* (U.S. Patent No. 6,170,573); and rejected Claims 5 and 8 under 35 U.S.C. §103(a) as being unpatentable over *Fox et al.* These rejections are traversed in view of the amendment to Claim 1 and for the reasons that follow.

None of the references, taken singly or in combination, teach or suggest the elements of independent Claim 1, from which Claims 2-8 and 10 depend. Namely, none of the references teach or suggest

a light source on the first wall of the machine element, and a sensor on a wall parallel to the first wall wherein the sensor is positioned to detect intensity of light within the machine element.

Fox et al. do not teach a sensor positioned on a wall which is parallel to a wall upon which a light source is attached.

Smietana merely teach a coating on a shaft element, head element and interior wall of a machine element. *Smietana* does not teach or suggest use of a light source and a sensor within a machine element. Accordingly, one of ordinary skill in the art at the time of Applicant's invention would not have been motivated to combine the teachings of *Fox et al.* with *Smietana* to achieve Applicant's invention as defined in Claim 1.

Lowi, Jr. do not teach or suggest measuring displacement of a machine component. Therefore, one of ordinary skill in the art at the time of Applicant's invention would not have been motivated to combine the teachings of *Fox et al.* with those of *Lowi, Jr.* to achieve the invention as defined in Claim 1.

Brunet et al. merely teach a wire brush for cleaning a machine element. *Brunet et al.* do not teach or suggest measuring displacement of a machine component. Accordingly, one of ordinary skill in the art at the time of Applicant's invention would not have been motivated to combine the teachings of *Brunet et al.* with *Fox et al.* and *Lowi, Jr.* to achieve the invention as defined in Claim 1.

Therefore, Applicant asserts that one of ordinary skill in the art at the time of Applicant's invention would never have been motivated to modify these references in the manner suggested by the Patent Office in formulating the rejections under 35 U.S.C. §103(a).

In the Office Action, the Patent Office rejected Claim 19 under 35 U.S.C. §103(a) as being unpatentable over *Segerson et al.*; and rejected Claims 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over *Segerson et al.* in view of *Lowi, Jr.* These rejections are respectfully traversed in view of the amendment to Claim 17 and for the reasons that follow.

None of the references, taken singly or in combination, teach the elements of independent Claim 17, from which Claims 19, 21 and 22 depend. Namely, none of the references teach a shaft which moves within a machine element wherein movement of the shaft towards the first end causes movement of the shaft away from the second end. A light source is attached at the first end and a sensor is attached at the second end. As stated earlier, *Segerson et al.* teach a shaft which is positioned between a first end and a second end, but the shaft does not move towards the first end or the second end. *Lowi, Jr.* is merely relied upon by the Patent Office to allege teaching a first and second brush attached to the machine element. *Lowi, Jr.* do not teach or suggest measuring displacement of a machine component. Therefore, one of ordinary

skill in the art at the time of Applicant's invention would not have been motivated to combine the teachings of *Segerson et al.* with those of *Lowi, Jr.* to achieve the invention as defined in Claim 17, as amended.

It is submitted that the question under §103 is whether the art would suggest the claimed invention to one of ordinary skill in this art. In re Simon, 461 F.2d 1387, 174 USPQ 114 (CCPA 1972). That elements, even distinguishing elements, are disclosed in the art is alone insufficient. It is common to find elements somewhere in the art. Moreover, most if not all elements perform their ordained and expected functions. The test is whether the invention as a whole, in light of the teachings of these references in their entireties, would have been obvious to one of ordinary skill in the art at the time the invention was made. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983).

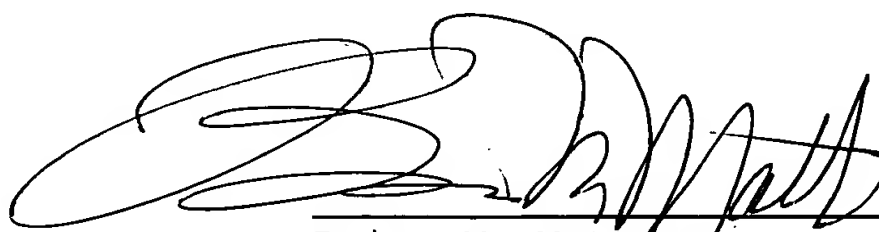
It is insufficient that the art disclosed components of Applicants' invention. A teaching, suggestion, or incentive must exist to make the modification made by Applicant. Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1988).

In view of the foregoing remarks and amendments, Applicant respectfully submit the rejections of Claims 2-8, 10-19, 21 and 22 under 35 U.S.C. §103(a) have been overcome and should be withdrawn. Notice to that effect is requested.

Claims 2-10 depend from Claim 1; Claims 12-16 depend from Claim 11; and Claims 18-22 depend from Claim 17. These claims are further believed allowable over the references of record since each sets forth additional structural elements and novel steps of Applicant's apparatus, system and method for position monitoring and/or cleaning of a machine element, respectively.

In view of the foregoing remarks and amendments, Applicant respectfully submits that all of the claims in the application are in allowable form and that the application is now in condition for allowance. If, however, any outstanding issues remain, Applicant urges the Patent Office to telephone Applicant's attorney so that the same may be resolved and the application expedited to issue. Applicant requests the Patent Office to indicate all claims as allowable and to pass the application to issue.

Respectfully submitted,

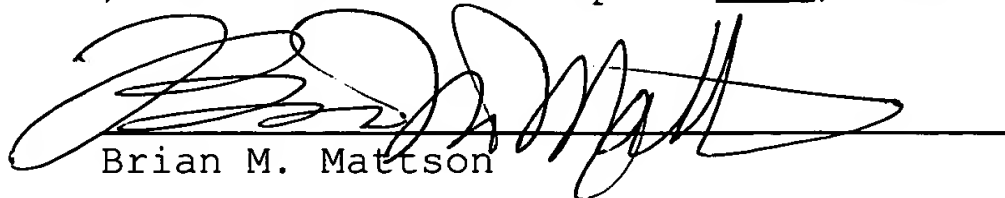


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I hereby certify that this **Amendment** is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 23, 2004.


Brian M. Mattson